

PLANT PROFILE

Austrobaileya scandens C. White

Among the extant primitive angiosperms, the Austrobaileyaceae constitute, according to Endress (1980), one of the systematically most isolated and geographically most restricted Dicotyledonous families. *Austrobaileya scandens*, its only member, is a woody vine endemic to the tropical rainforest of north Queensland. It was first discovered in 1929 by S.F. Kajewski when he was collecting for the Arnold Arboretum, USA. White (1933) described it as a new genus and species of the family Magnoliaceae, but after detailed research Croizat (1943) erected the new family Austrobaileyaceae for it in recognition of its unique systematic position. Subsequent authors have followed this suggestion. White (1948) described a second species, but, for reasons detailed below, it is considered conspecific with *A. scandens*.

***Austrobaileya scandens* C. White, Contr. Arn. Arb. 4: 29 (1933). Type:** Queensland. COOK DISTRICT: Boonjie, Atherton Tableland, 10 October 1929, *S.F. Kajewski* 1629 (holo: BRI!).

***Austrobaileya maculata* C. White, J. Arn. Arb. 29: 255 (1948). Type:** Queensland. COOK DISTRICT: Mt Spurgeon, September 1936, *C.T. White* 10734 (holo: BRI!).

Robust glabrous vine of rainforest canopy. Stems and older branches lenticellate; young branchlets smooth, flattened, sometimes somewhat glaucous, often with narrow decurrent lines, sometimes extending into narrow wings. Leaves opposite or subopposite, simple; lamina leathery, smooth, bluish green, \pm shiny above, oblong-ovate or oblong to narrowly ovate, 4.5-20 cm long, 2-9 cm wide; apex abruptly acuminate, the point itself 5-10 mm long; base generally rounded to broadly cuneate; margins narrowly recurved; nervation of midrib \pm flat or slightly recessed above, broad and somewhat raised below, 4-8 secondary nerves looping out towards margin on each side of midrib, and interstitial reticulate venation prominent on both sides of lamina. Flowers solitary in leaf axils, pedunculate; peduncles 7-15 mm long, clothed in small scattered bracts; bracts broadly ovate, 1-2 mm long. Flowers \pm pendent, with a foetid odour to attract pollinator flies, c. 5-6 cm diameter, exhibiting spiral phyllotaxis, bisexual. Tepals 11-23, greatly overlapping, varying much in shape and size, though outermost smallest, 5.5-30 mm long, 6-21 mm wide; outer tepals glossy green, \pm circular, inner creamish green with red-purple dots, broadly oblong to obovate; margins very thin, irregularly denticulate. Androecium consisting of stamens and (inner) staminodes, all creamish, papillose, irregularly dotted with dark purple; stamens 7-11, laminar, varying in shape from relatively flat to strongly boat-shaped depending on the position in the whorl, 14-17 mm long, 5-9 mm broad, with apex from almost acute or truncate to rounded, innermost stamens approach staminodes in outline; ventral surface of stamen with 2 bisporangiate thecae 3-5 mm long, each theca opening by a longitudinal slit; staminodes 9-16, 15-17 mm long, narrow, plicate or irregularly ridged. Gynoecium consisting of 8 or 9 free carpels 6.5-9 mm long; ovary c. 3 mm long, containing 4-14 ovules arranged alternately in 2 longitudinal rows; styles c. 6 mm long, with canal exuding mucilage, all converging apically and at anthesis tips embedded in a massive mucilage cap; stigma transversely bilobed. Only a few carpels in each flower develop to maturity. Fruits stalked, fleshy, orange-yellow, ellipsoid to globose berries, c. 5-7 cm long, 4-5 cm broad; stalk 1.5-2 cm long. Seeds whitish, often lenticular. **Fig. 1.**

Distribution and habitat: This species has been collected from Mt Spurgeon in the Mt Carbine Tableland area, south to the Atherton Tableland and vicinity of Ravenshoe, and to the Downey Creek area and south to the Walter Hill Range near Tully. Though collections of it are not numerous, it could be expected to occur over a wide area of the wet tropics in both lowland and higher altitude rainforest. It is usually found as a canopy vine growing to the crowns of trees 10-15 m tall.

Conservation status: In a number of areas the species has been recorded as locally common, but since it is a vine of the canopy it is not often noticed. It is not considered

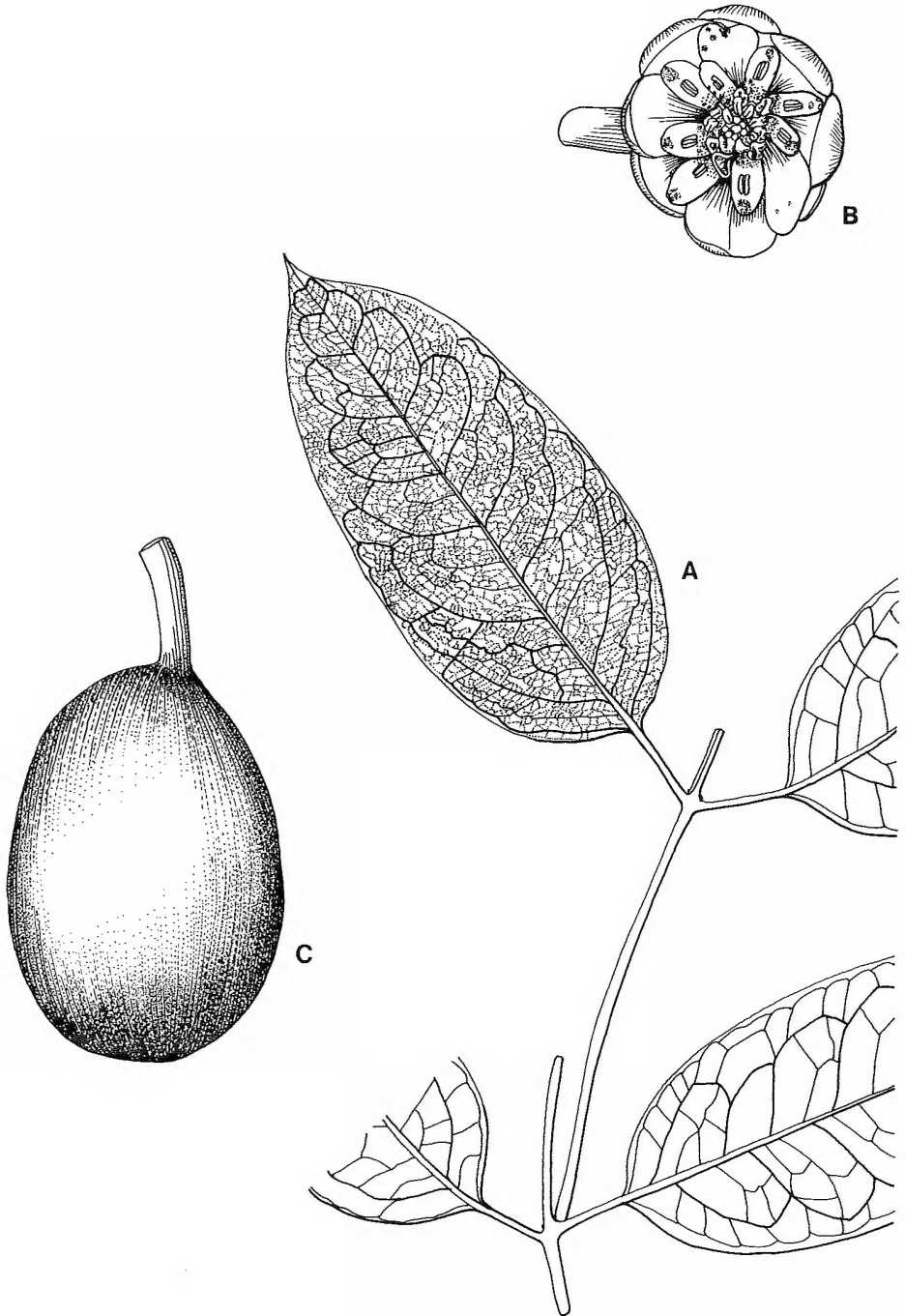


Fig. 1. *Austrobaileya scandens*: A. leaf $\times 0.5$. B. flower $\times 1$. C. fruit $\times 1$. A, Webb & Tracey 6562; B, Jessup 884 & McDonald (in spirit); C, Jessup & Guymer GJM 2774 (in spirit). All at BRI.

to be rare and threatened, and has been recorded from national parks through much of its range.

Notes: Although Telford (1983) mentions two species, viz *A. scandens* and *A. maculata*, other authorities (e.g. Endress 1980) consider there to be only one in the genus. Collections at BRI show the key characters listed by White (1948) for separating his two species are unreliable. The leaf shape varies from lanceolate to oblong on the one branchlet; flowers on both type specimens have densely papillose stamens and staminodes; and as Endress (1980) pointed out, the shape of each stamen's apex depends on its position within the spiral. On the basis of this evidence, the taxa previously included under *A. scandens* and *A. maculata* are thus regarded as conspecific, and *A. scandens*, being the older name, should be used for the species concerned.

Acknowledgements

I extend my thanks to L.W. Jessup, W.J.F. McDonald and G.P. Guymer for providing excellent specimens from which W.A. Smith prepared the illustrations, and for constructive comment on the manuscript.

References

- CROIZAT, L. (1943). New families. *Cactus and Succulent Journal (Los Angeles)* 15: 64.
- ENDRESS, P.K. (1980). The reproductive structures and systematic position of the Austrobaileyaceae. *Botanische Jahrbücher für Systematic, Pflanzengeschichte und Pflanzengeographie*, 101: 393-433.
- TELFORD, I. (1983). Austrobaileyaceae. In Morley, B.D. & Toelken, H.R. (eds), *Flowering Plants in Australia*. Adelaide: Rigby.
- WHITE, C.T. (1933). Ligneous plants collected for the Arnold Arboretum in North Queensland by S.F. Kajewski in 1929. *Contributions from the Arnold Arboretum* 4: 1-113.
- WHITE, C.T. (1948). A new species of *Austrobaileya* (Austrobaileyaceae) from Australia. *Journal of the Arnold Arboretum* 29: 255-256.

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